

Remarks/Arguments

Independent claims 1 and 9 are rejected under Section 102(b) as being unpatentable over Mansur (2,302,785).

However, Mansur '785 fails to show or suggest a deep tillage point structure for movement through a compacted layer of soil having the defined apex as set forth in claim 1 wherein the included angle is obtuse substantially the entire length of the apex to facilitate soil parting by the upright shank in the initially stressed fractured compacted layer. Further, to clarify the rearward location of the wings (Mansur shows a substantial portion of the wings forwardly, not rearwardly, of the leading edge of the stock 2), claim 1 is amended to set forth that the wings include forwardmost portions located adjacent the aft portion of the apex. Clearly, the forwardmost portions of the wings of Mansur as well as of the wings of the Myers (6,443,237) structure are substantially ahead of the aft portion of the apex in each. The advantages of the structure of claim 1 are set forth, for example, at paragraph [0009] of the specification:

[0009] The relationship of the wings to the point and the rear of the shank provide substantial advantage over most conventional point structures. The wings are spaced far enough rearward from the point so that the point and wear shin have enough time to lift, fracture, and part the soil profile in contact with the shank prior to any wing action. After the parting action of the soil profile is completed, the upward lift momentum of the soil is reduced as it flows around the shank. The soil lift begins to drop or level out and simultaneously the second lift of the soil profile is initiated....

Also, claim 1 is amended to include the limitations of claim 2 (apex angle of approximately 100 degrees adjacent an aft portion of the apex), whereas Mansur shows an angle closer to 90 degrees. Note that Mansur does not have to be concerned about excessive soil throw since his device includes plow handles 9, indicating a maximum speed of a walking pace.

The amendments to claim 1 are believed not to raise new issues (see for example original claim 2, now canceled, and claims 9 and 16) and are believed to clearly put claim 1 in condition for allowance (or alternatively to clarify issues for purposes of appeal). Therefore, entry of the amendment and allowance of claim 1 and claims 3 - 8 dependent therefrom is respectfully requested.

In similar fashion, claim 9 is amended to set forth that the leading edges of the wings are located substantially entirely behind the rear portion of the apex (see Figs. 1 and 4). Neither Mansur or Myers, or the combination of the references, shows or suggests such rearwardly located wing structure. The leading edges of the wing structures in both Mansur and Myers are located substantially forward of the rear portion of the apex of each. The amendment is believed not to raise substantial new issues and is believed to clearly put the claim in condition for allowance. Therefore, entry of the amendment and allowance of claim 9, and claim 10 - 15 dependent therefrom is respectfully urged.


The remaining independent claim, claim 16, sets forth that the leading wing edges are located near a lowermost extremity main body so the wings enter the soil at a level just above a level of entry of the leading nose edge and initiate a second fracture of the compacted layer. Clearly, Myers fails to show this structure, and the wings of Mansur appear to enter at the level of entry of the nose edge. Further, to clarify the wing location, it is proposed to amend claim 16 to set forth that the wings have leading wing edges located entirely rearwardly of a forwardmost portion of the forward soil-parting edge and below the top surface. Clearly, the combination of structure as now set forth in claim 16 is not shown or suggested by the references.

The amendments to claims 1, 9 and 16 are believed not to raise any substantial new issues and are believed to clearly put the claims in condition for allowance. Therefore, entry of this amendment and allowance of the claims is respectfully requested. If for any reason the Examiner feels that the present amendment does not put the application in condition for allowance, its entry is respectfully requested to narrow the issues on appeal.

In conclusion, it is believed that this application is in condition for allowance, and such allowance is respectfully requested.

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Respectfully,



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